

CLAIMS

1. An electro-acoustic communications unit (10) for producing a desired frequency characteristics in alert and phone mode, comprising:

- a housing with a wall (12) defining an interior, having a certain volume (V), and an exterior,
- an acoustic driver (14) for generating acoustic signals, said acoustic driver (14) being mounted to the wall (12),
- an acoustic port (16, 26), having a length (L) and a cross-sectional area (A), said port (16, 26) penetrating the wall (12) and connecting the interior of the housing with the exterior of said housing,

characterized in that

the housing defined by the wall (12) is tightly sealed and that the volume (V), length (L) and cross-sectional area (A) are dimensioned in relation to the acoustic driver (14) in a way such that said electro-acoustic communications unit (10) achieves a desired frequency characteristics in the phone mode, that is when engaging the exterior end (22, 32) of said acoustic port (16, 26) of the electro-acoustic communications unit (10) with a user's ear (18), wherein said desired frequency characteristics comprises an increase of the high-frequency performance level relative to the performance of a communications unit alone.

2. The electro-acoustic communications unit (10) according to claim 1, wherein the acoustic driver (14) has a first side directed towards the interior of the housing defined by the wall (12), and a second side directed towards the exterior of the housing defined by the wall (12), and characterized in that the first side of the acoustic driver is arranged to drive acoustic signals into the interior of the housing.

3. The electro-acoustic communications unit (10) according to claim 2, characterized in that the acoustic port (16, 26) is adapted to make use of the acoustic signals driven into the interior of the housing.

4. The electro-acoustic communications unit (10) according to claim 2, characterized in that the acoustic signals generated by the second side of the acoustic driver (14), are directed to dissipate without being used by the user.

5. The electro-acoustic communications unit (10) according to claim 1, characterized in that

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the volume (V) of the housing is of the order a few between 0,5 and 10 cubic centimeters (cm^3), the length (L) of the acoustic port (16, 26) of the order of a few between 0,5 and 20 centimeters (cm) and the cross-sectional area (A) of the acoustic port (16, 26) of the order of between 1 and 120 square millimeters (mm^2).

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6. Portable communication device (20, 30) comprising an electro acoustic communications unit (10) according to claim 1.

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7. Portable communication device (20, 30), according to claim 6, wherein the portable communication device is a mobile phone.

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8. Portable communication device (20, 30), according to any of claims 6 or 7, characterized in that said portable communication device (20, 30) is adapted to attenuate the acoustic signals generated by an exterior side of the acoustic driver (14), with respect to the housing wall (12).

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